

General description/overview

Whole Number Foundations Level 1™ is designed to accelerate the mathematics achievement of first grade students who experience difficulties in developing proficiency with advanced whole number concepts and skills.

- Tier 2 small-group intervention
- 60-lessons focused on concepts and skills from two essential math domains in the [Common Core State Standards](#): Operations and Algebraic Thinking, and Number and Operations in Base Ten

Product information

Whole Number Foundations Level 1 (WNF-1) is designed to accelerate the mathematics achievement of first grade students who are at risk for mathematics difficulties by focusing primarily on advanced whole number concepts and skills. Topics targeted in *WNF-1* include place value and base ten concepts with numbers to 120, number properties, number combinations, addition and subtraction of 2-digit numbers without renaming, and word problem solving.

- Tier 2 small-group intervention provided *in addition* to core (Tier 1) instruction
- 60-lessons delivered three to five times per week in 30-minute sessions
- Aligned with the [Common Core State Standards](#) focusing on two essential math domains: Operations and Algebraic Thinking, and Number and Operations in Base Ten
- Research suggests *WNF-1* has beneficial impact on student math achievement.
- The National Center on Intensive Intervention (NCII) rated a study about the effectiveness of *WNF-1* as having “partially convincing evidence” regarding the study design, and “convincing evidence” regarding participants, fidelity of implementation, and broad math outcome measures.
- Available in Spanish as [Fundamentos de los Números Enteros: Nivel 1](#)

Conceptual Framework

- *Conceptual Understanding* is developed through engagement with mathematical models including number lines, ten-frames, base-ten models, and word problem solving models.
- *Procedural fluency and automaticity*
 - Systematic practice and review within and across lessons
 - Checks for mastery at the end of each activity
 - Worksheets help teachers monitor students' mastery of concepts and skills
- *Vocabulary and discourse*
 - Key vocabulary is identified and explicitly taught and reviewed.
 - Scripted lessons ensure continuity and precise definitions.
 - Students are provided opportunities to use mathematical vocabulary to reason and provide justification.
- *High quality instructional interactions*. Each lesson includes frequent opportunities for students to practice skills and demonstrate their knowledge.

Instructional Design Components

- *Explicit and systematic instruction*: Lessons offer a variety of teacher models, scaffolded instructional examples and opportunities for academic feedback.
- *Prerequisite knowledge identified and pre-taught*: Lessons facilitate a critical connection between previously learned content and more advanced whole number concepts and skills.
- *Carefully selected and sequenced instructional examples*: Lessons promote student success by introducing concepts through simpler examples and then gradually increasing the difficulty as students' understanding of the concept grows.
- *Deliberate opportunities for student practice*: Lessons offer frequent and systematic opportunities for students to build procedural fluency.
- *Mathematical models and representations*: Lessons incorporate a variety of math models including a number line, hundreds chart, and place value models to build conceptual understanding.

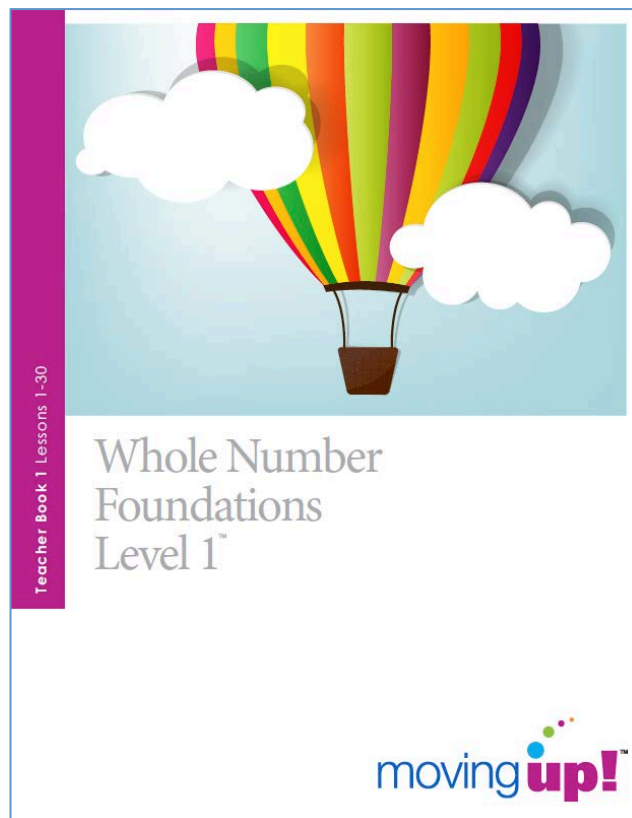
Materials

Formats consist of downloadable PDFs for self-printing according to a *Distribution License Agreement*, or as pre-printed materials that will be shipped to you.

Whole Number Foundations Level 1 includes 60 lessons divided into two Teacher Books, Worksheets, Program Support Materials, and a manipulative list.

- **Teacher Book 1:** Teacher's Guide and Lessons 1 – 30
- **Teacher Book 2:** Lessons 31 – 60
- **Worksheets:**
 - 21 different, reproducible Fact Timing worksheets
 - 8 different, reproducible Number Writing worksheets
- **Program Support Materials:**
 - Reproducible masters of a 100 and 120 counting chart, place value chart, number cards, addition and subtraction fact flashcards, and a fact timing data sheet
 - Not sold separately
- **Manipulative list:** Manipulatives are required for implementation of the program and are NOT included. These manipulatives are commonly available in first grade classrooms, or may be purchased from educational retailers.

These products can be purchased together as an Intervention Kit. Additional and/or replacement Teacher Books may also be purchased separately.



Research

Our Research to Your Classroom

Whole Number Foundations Level 1 (WNF-1) was developed and evaluated with funding from the U.S. Department of Education's Institute of Education Sciences (IES). An initial study demonstrated that teachers could feasibly implement the *WNF-1* intervention in schools (Doabler et al., 2015). A follow-up pilot study of *WNF-1* involved approximately 90 at-risk students in 9 first grade classrooms in Oregon (Clarke et al., 2015). Students eligible for the *WNF-1* intervention were randomly assigned to the *WNF-1* intervention or a control condition (i.e., standard district mathematics instruction). Student mathematics achievement was collected at pretest and posttest. Results suggested that *WNF-1* students made greater gains than their peers in the control condition on a measure considered proximal to the *WNF-1*. Specifically, findings revealed a medium effect size favoring *WNF-1* on the ProFusion measure ($p = .015$, Hedges' $g = 0.82$). Based on the What Works Clearinghouse standards (WWC, 2013), these results would describe *WNF-1* as having a "statistically significant positive effect" on student math outcomes.

This initial study of *WNF-1* was also recently reviewed by the National Center on Intensive Intervention, which rated it as having "partially convincing evidence" regarding the targeted outcome measure, and "convincing evidence" regarding the study design, participants, fidelity of implementation, and broad math outcome measures.

Clarke, B., Doabler, C. T., Strand Cary, M., Kosty, D., Baker, S., Fien, H., & Smolkowski, K. (2014). Preliminary evaluation of a tier 2 mathematics intervention for first grade students: Using a theory of change to guide formative evaluation activities. *School Psychology Review*, 43(2), 160 - 178.

Doabler, C. T., Clarke, B., Fien, H., Baker, S. K., Kosty, D. B., & Strand Cary, M. (2015). The science behind curriculum development and evaluation: Taking a design science approach in the production of a tier 2 mathematics curriculum. *Learning Disability Quarterly*, 38(2), 97 – 111. doi: 10.1177/0731948713520555

Pricing

Formats consist of downloadable PDFs for self-printing in accordance with a *Distribution License Agreement* along with printing guidelines, or as pre-printed materials that will be delivered to you.* See <https://dibels.uoregon.edu/market/movingup/firstfoundation> for specific ordering information.

Item	Ordering recommendations	Price for PDF license to print	Price for pre-printed materials
Intervention Kit. Includes Teacher Book 1 and Teacher Book 2; reproducible Worksheets (includes 21 Fact Timing and 8 Number Writing Worksheets); Program Support Materials; manipulative list**	Order at least one complete kit per school.	\$300	\$522
Teacher Book 1. Includes Teacher's Guide, Lessons 1 – 30	May be ordered in addition to the intervention kit for an additional interventionist, or as a replacement.	\$125	na
Teacher Book 2. Includes Lessons 31 – 60		\$125	na

*Prices for PDF delivery are for a license to print one copy, unless otherwise specified, and do not include the cost of printing. Prices for pre-printed materials include shipping anywhere in the contiguous United States.

**Manipulatives are not included.